

tween the injections. In other words, an essential condition of anaphylaxis is that a considerable interval—three or four weeks—elapse between the first and second injections.

Afterwards it was discovered that the subcutaneous injection of almost every form of protein foreign to the particular species of animal experimented upon, is capable of giving rise to this peculiar condition, and that, as extremely minute quantities are required for the first or sensitising dose, it is a delicate test for the presence of a particular protein. The reaction is so specific that proteins from a horse can be distinguished from those from an ox, and by means of it the presence of horseflesh in a sausage can be determined or a human bloodstain identified.

The manifestations of anaphylaxis, which may be generally described as those of collapse or shock, differ somewhat in different animals, but for the same animal are much the same whatever the protein used for injection. The symptoms develop within a few minutes; recovery, if it occurs, is sudden, and for some time afterwards the animal has lost its sensitivity to the particular poison.

During the last few years anaphylaxis has occupied the attention of a large number of investigators, and hundreds of papers have been published dealing with its nature and the conditions determining its occurrence, but it cannot be said to be even yet completely understood.

The great merit of Richet's book is that he has analysed the voluminous data and rendered them into a clear exposition of the subject so far as it is known up to the date of publication. This, only one who was himself intimately acquainted with the subject and had actively participated in its development could possibly do.

The book is delightfully written, and the translation has been well and faithfully performed. The translator has increased the usefulness of the English edition by adding some of the more important papers published during 1912 to the literature cited in the original. C. J. M.

AN INTRODUCTION TO CARTOGRAPHY.

Maps and Survey. By A. R. Hinks, F.R.S. Pp. xvi + 206 + xxiv plates. (Cambridge University Press, 1913.) Price 6s. net.

STUDENTS of geography will find in this book an extremely useful account of those methods of earth and land measurement which provide the foundation on which most of their work is based. The procedure and the general results of various operations in surveying are described, but no attempt is made to furnish detailed instructions for executing a survey. These are to be

sought in manuals of surveying. On the other hand, the author has provided a clear and comprehensive account not only of the simpler methods of topographical surveying, but also of the more elaborate operations which are requisite where large tracts of country are concerned, and, moreover, of those refined operations which aim at determining the precise shape and size and the physical character of the earth.

Passing from the methods of measurement, the graphical expression of them in the form of maps is very fully dealt with, and especially the various methods of representing relief of surface by means of line, shading, and colour.

The use of maps being more widely practised than the land measurement which provides the data for their compilation, the first two chapters deal especially with maps, and a clear and concise account is given of the most suitable ways in which communications and the relief of the surface can be expressed in maps of various scales, as well as of the various conventions which are required to express geographical information clearly and concisely.

A very instructive chapter is that in which a series of topographical map sheets, both British and foreign, are analysed to show the methods employed for presenting different classes of geographical data, and many coloured examples of these maps are included. We look forward to see this portion of the book further extended in future editions, so as to discuss the representation of other classes of geographical data and phenomena, besides settlements, communication, and relief, with the view of showing them to the best advantage, perhaps as special maps, without their being masked by other detail, as not infrequently is the case at present.

The general account of surveying methods, both the elementary and the more elaborate and precise, occupies the greater part of the book, which is to be recommended to all students of geography as providing them with descriptions of different methods of work, of which the special advantages and the limitations are clearly explained. The view held by many military topographers in this country, that the plane-table should be kept as simple as possible in form and equipment, is noted as having undergone some modification of late, and telescopic alidades with parallel rule attachment are now much used. It should be the local conditions of work in each case that should determine the form of plane-table as of any other instrument, and not a fixed rule, for the trained surveyor should continually modify both his methods and his equipment so as to produce work of the neces-

sary precision most economically. The short account of geodetic work will be useful to many, and the reference to the determination of longitude by the aid of wireless telegraphy directs attention to a means of transmission of time signals which has already proved valuable and effective in exploratory surveys.

H. G. L.

A PRACTICAL VISIONARY.

The Works of John Caius, M.D., Second Founder of Gonville and Caius College, and Master of the College, 1559-1573. With a Memoir of his Life by Dr. John Venn. Edited, at the request of the Governing Body of the College and of the President and Fellows of the Royal College of Physicians, by E. S. Roberts, Master. In commemoration of the four hundredth anniversary of the birth of John Caius in 1910. Pp. xii+828. (Cambridge University Press, 1912.) Price 18s. net.

OWING to various circumstances, this important volume has not received earlier notice; but we may hope that in the case of a work of permanent value there may be some advantage in a later notice which shall recall attention to a standard volume which otherwise, in the flood of books from the press, might be temporarily forgotten. Its contents and the occasion of its appearance are sufficiently recorded in the title, and the names of its editors—including some not titular editors who collaborated in its production—are a strong guarantee of its faithfulness: names such as the late Master of Caius, Dr. Venn, the late Dr. Payne—a learned coadjutor who was lost to the world of letters and of medicine during its preparation—and Dr. Norman Moore.

John Caius, Second Master of Gonville and Caius College and sixteenth Master of the foundation, was born at Norwich, October 6, 1510. He was a personal friend of Gresham, and Martin's Bank has been the College bank in London ever since Gresham's day. Caius was in close friendship with Vesalius, and graduated at Padua. He seems even then to have been a man of some affluence, as, besides his leisurely education, he travelled widely and formed friendships with many other great men of science of that period, such as Gesner, for whom he wrote his "History of Englishe Dogges."

If it cannot be pretended that Caius was a man of any great intellectual originality, but he seems to have been intensely interested in scientific pursuits, and was equipped with wide, if rather old-fashioned, learning. His treatise on the Sweating Fever, if not profound, is the first original authority on this epidemic. But his claim to remembrance rests rather on his remarkable

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character and achievements than on his literary works. Not a genial man, "sad and stern," Dr. Venn calls him, and of weak bodily health, he seems to have lived much of an inner life, dwelling in ideas of dignified, studious, and austere foundations, such as colleges, whether academic or of crafts and mysteries; happily for us, both in Cambridge and in the College of Physicians he pursued these ideas with a devotion undaunted by temporary and worldly animosities and disappointments. His admiration of public service and of learning is seen in his honour to the memory of Linacre. Loving symbolism as he did, he was attached to the ancient forms of religion, and partly for this attachment, partly for his rigorous rule, he was treated in his Cambridge college with what nowadays we should call savage brutality, and in any age base ingratitude. Still, he never blenched, never for the raging of wicked men did his ideals fade or fall. Even to the last, when driven by turbulent youths from the College which he had re-founded, and almost on his death-bed, his eyes fixed with a noble faith on the future, he continued to provide his college with additional endowments and statutes. Unhappily, although if he could see his college now his spirit would rejoice, yet for centuries after his death his wise rules were neglected, and the provisions he had especially made for medical studies set aside and perverted. But Caius has long come to his own; the household of his famous College, and we who reap what he sowed, are nurtured in perpetual thankfulness to the great idealist whose devotion and far-seeing wisdom, in spite of heavy discouragements, never lost his faith and his hope, but bountifully bestowed upon future generations the blessings so ill-requited by his own. C. A.

CERAMIC CHEMISTRY.

A Treatise on Quantitative Inorganic Analysis. Being Vol. i. of a Treatise on the Ceramic Industries. By Dr. J. W. Mellor. Pp. xxxi+778. (London: C. Griffin and Co., Ltd., 1913.) Price 30s. net.

THE ceramic chemist has waited many years for a thorough and comprehensive treatise on the quantitative analysis of the materials with which he has had to deal, and here at last is what he had so long and so urgently needed. Dr. Mellor states that "this book is to be considered as the first volume of a treatise on the ceramic industries," but the range of mineral substances used by the modern potter is so wide that Dr. Mellor has found it necessary to cover practically the whole field of inorganic analysis. At the same time, particular attention is given to the analyses usually required in the pottery industry; and here we may